Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A light-emitting device, comprising:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region; and

a support;

wherein:

the light-generating region is between the first layer and the support;

a surface of the first layer is configured so that light generated by the light-generating region can emerge from the light-emitting device via the surface of the first layer;

the surface of the first layer has a dielectric function that varies spatially according to a pattern;

the pattern is formed of holes in the surface of the first layer; ~~and~~

the pattern is configured so that light generated by the light-generating region that emerges from the light-emitting device via the surface of the first layer is more collimated than a Lambertian distribution of light; and

the pattern has an ideal lattice constant and a detuning parameter with a value greater than zero.

2. (Original) The light-emitting device of claim 1, wherein, when light generated by the light-generating region emerges from the light-emitting device via the surface of the first layer, at least about 40% of the light emerging via the surface of the first layer emerges within at most about 30° of an angle normal to the surface of the first layer.

3. (Original) The light-emitting device of claim 1, wherein the filling factor of the light-emitting device is at least about 10%.

4. (Original) The light-emitting device of claim 3, wherein the filling factor of the light-emitting device is at most about 75%.

5-6. (Cancelled).

7. (Previously Presented) The light-emitting device of claim 1, further comprising a layer of reflective material that is capable of reflecting at least about 50% of light generated by the light-generating region that impinges on the layer of reflective material, the layer of reflective material being between the support and the multi-layer stack of materials.

8. (Original) The light-emitting device of claim 7, wherein the reflective material is a heat sink material.

9. (Original) The light-emitting device of claim 8, wherein the heat sink material is configured so that the heat sink material has a vertical heat gradient during use of the light-emitting device.

10. (Original) The light-emitting device of claim 7, further comprising a heat sink material.

11. (Original) The light-emitting device of claim 10, wherein the heat sink material is configured so that the heat sink material has a vertical heat gradient during use of the light-emitting device.

12. (Original) The light-emitting device of claim 1, further including a current-spreading layer between the first layer and the light-generating region.

13. (Original) The light-emitting device of claim 1, further comprising electrical contacts configured to inject current into the light-emitting device.

14. (Original) The light-emitting device of claim 13, wherein the electrical contacts are configured to vertically inject electrical current into the light-emitting device.

15. (Original) The light-emitting device of claim 1, wherein the light-emitting device is selected from the group consisting of light-emitting diodes, lasers, optical amplifiers, and combinations thereof.

16. (Original) The light-emitting device of claim 1, wherein the light-emitting device comprises a light emitting diode.

17. (Original) The light-emitting device of claim 1, wherein the light-emitting device is selected from the group consisting of OLEDs, flat surface-emitting LEDs, HBLEDs, and combinations thereof.

18. (Canceled)

19. (Original) The light-emitting device of claim 1, wherein the pattern does not extend into the light-generating region.

20. (Original) The light-emitting device of claim 1, wherein the pattern does not extend beyond the first layer.

21. (Original) The light-emitting device of claim 1, wherein the pattern extends beyond the first layer.

22-24. (Cancelled).

25. (Currently Amended) A wafer, comprising:

a plurality of light-emitting devices, at least some of the light-emitting devices comprising:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region; and

a support,

wherein:

the light-generating region is between the first layer and the support;

a surface of the first layer is configured so that light generated by the light-generating region can emerge from the light-emitting device via the surface of the first layer;

the surface of the first layer has a dielectric function that varies spatially according to a quasi-crystalline pattern;

the quasi-crystalline pattern is formed of holes in the surface of the first layer;

the quasi-crystalline pattern is configured so that light generated by the light-generating region that emerges from the light-emitting device via the surface of the first layer is more collimated than a Lambertian distribution of light; and

the wafer includes at least about five light-emitting devices per square centimeter.

26. (Original) The wafer of claim 25, wherein the wafer includes at least about 25 light-emitting devices per square centimeter.

27. (Original) The wafer of claim 25, wherein the wafer includes at least about 50 light-emitting devices per square centimeter.

28. (Previously presented) The light-emitting device of claim 1, wherein the surface of the first layer has features with a size of less than about $\lambda/5$, where λ is a wavelength of light

that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

29. (Previously presented) The wafer of claim 25, wherein the surface of the first layer has features with a size of less than about $\lambda/5$, where λ is a wavelength of light that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

30-36. (Canceled)

37. (New) A light-emitting device, comprising:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region; and

a support,

wherein:

the light-generating region is between the first layer and the support;

a surface of the first layer is configured so that light generated by the light-generating region can emerge from the light-emitting device via the surface of the first layer;

the surface of the first layer has a dielectric function that varies spatially according to a quasi-crystalline pattern;

the quasi-crystalline pattern is formed of holes in the surface of the first layer; and

the quasi-crystalline pattern is configured so that light generated by the light-generating region that emerges from the light-emitting device via the surface of the first layer is more collimated than a Lambertian distribution of light.

38. (New) The light-emitting device of claim 37, wherein, when light generated by the light-generating region emerges from the light-emitting device via the surface

of the first layer, at least about 40% of the light emerging via the surface of the first layer emerges within at most about 30° of an angle normal to the surface of the first layer.

39. (New) The light-emitting device of claim 37, wherein the filling factor of the light-emitting device is at least about 10%.

40. (New) The light-emitting device of claim 39, wherein the filling factor of the light-emitting device is at most about 75%.

41. (New) The light-emitting device of claim 37, further comprising a layer of reflective material that is capable of reflecting at least about 50% of light generated by the light-generating region that impinges on the layer of reflective material, the layer of reflective material being between the support and the multi-layer stack of materials.

42. (New) The light-emitting device of claim 41, wherein the reflective material is a heat sink material.

43. (New) The light-emitting device of claim 42, wherein the heat sink material is configured so that the heat sink material has a vertical heat gradient during use of the light-emitting device.

44. (New) The light-emitting device of claim 41, further comprising a heat sink material.

45. (New) The light-emitting device of claim 44, wherein the heat sink material is configured so that the heat sink material has a vertical heat gradient during use of the light-emitting device.

46. (New) The light-emitting device of claim 37, further including a current-spreading layer between the first layer and the light-generating region.

47. (New) The light-emitting device of claim 37, further comprising electrical contacts configured to inject current into the light-emitting device.

48. (New) The light-emitting device of claim 47, wherein the electrical contacts are configured to vertically inject electrical current into the light-emitting device.

49. (New) The light-emitting device of claim 37, wherein the light-emitting device is selected from the group consisting of light-emitting diodes, lasers, optical amplifiers, and combinations thereof.

50. (New) The light-emitting device of claim 37, wherein the light-emitting device comprises a light emitting diode.

51. (New) The light-emitting device of claim 37, wherein the light-emitting device is selected from the group consisting of OLEDs, flat surface-emitting LEDs, HBLEDs, and combinations thereof.

52. (New) The light-emitting device of claim 37, wherein the pattern does not extend into the light-generating region.

53. (New) The light-emitting device of claim 37, wherein the pattern does not extend beyond the first layer.

54. (New) The light-emitting device of claim 37, wherein the pattern extends beyond the first layer.

55. (New) A wafer, comprising:

a plurality of light-emitting devices, at least some of the light-emitting devices comprising:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region; and

a support,

wherein:

the light-generating region is between the first layer and the support;

a surface of the first layer is configured so that light generated by the light-generating region can emerge from the light-emitting device via the surface of the first layer;

the surface of the first layer has a dielectric function that varies spatially according to a pattern;

the pattern is formed of holes in the surface of the first layer;

the pattern is configured so that light generated by the light-generating region that emerges from the light-emitting device via the surface of the first layer is more collimated than a Lambertian distribution of light;

for the at least some of the light-emitting devices, the pattern has an ideal lattice constant and a detuning parameter with a value greater than zero; and

the wafer includes at least about five light-emitting devices per square centimeter.

56. (New) The wafer of claim 55, wherein the wafer includes at least about 25 light-emitting devices per square centimeter.

57. (New) The wafer of claim 55, wherein the wafer includes at least about 50 light-emitting devices per square centimeter.

58. (New) The light-emitting device of claim 55, wherein the surface of the first layer has features with a size of less than about $\lambda/5$, where λ is a wavelength of light that can be

generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

59. (New) The wafer of claim 55, wherein, for all the light-emitting devices, the pattern has an ideal lattice constant and a detuning parameter with a value greater than zero.